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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/790,280	03/01/2004	John A. Adamovics	4727-103 US	9530

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Diane Dunn McKay, Esq.  
Mathews, Collins, Shepherd & McKay, P.A.  
100 Thanet Circle, Suite 306  
Princeton, NJ 08540

EXAMINER
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TANINGCO, MARCUS H

ART UNIT	PAPER NUMBER
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2884

DATE MAILED: 12/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No. 10/790,280	Applicant(s) ADAMOVICS, JOHN A.	
	Examiner Marcus H. Tanningco	Art Unit 2884	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 October 2005.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-8, 10-15, 38-42, 44-65 and 67-74 is/are pending in the application.  
     4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 45-49, 58, 61 and 62 is/are allowed.
- 6) ☒ Claim(s) 1-8, 10-15, 38-42, 44, 50-57, 59, 60, 63-65, 67-74 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
     a) ☐ All    b) ☐ Some \*    c) ☐ None of:  
         1. ☐ Certified copies of the priority documents have been received.  
         2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
         3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
     Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
     Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-8, 10-13, and 73 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscovich (US 5,498,876) in view of Sydney et al. (US 5,206,118).

Re claims 1, 4, 10, 13, and 73, Moscovich discloses a three dimensional dosimeter device comprising a transparent polymer doped with spirobenzopyran (Col. 5, 38-43), wherein said three dimensional dosimeter device provides a three dimensional map (Col. 2, 15-22).

Moscovich fails to teach one or more activators dispersed within said device. Sydney teaches a dosimeter device comprising chloroform as an activator. It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Moscovich with chloroform as an activator in order to make the dosimeter more sensitive to low dosages of high-energy radiation (Col. 9, 18-25).

Re claims 2 and 3, Moscovich discloses said transparent polymer comprises polymethylmethacrylate (Col. 12, 6-7).

Re claims 5 and 8, Moscovich teaches a device comprising a reporter compound (Col. 5, 38-43) but fails to specify said reporter compound being fluoran. Sydney teaches that fluoran is a well-known reporter compound used in dosimeters (Col. 6, 40-53). It would have been an

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obvious matter of design choice to use fluoran, since applicant has not disclosed that fluoran solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with other types of reporter compounds.

Re claims 6 and 7, Moscovich discloses one or more reporter (Col. 5, 38-43), but fails to specify the type of reporter used comprises triarylmethane or triarylmethane lactone. It would have been an obvious matter of design choice to modify Moscovich with a reporter comprising one of the elements recited, since applicant has not disclosed that the specific recited elements solve any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any reporter molecule.

Re claims 11 and 12, Moscovich and Sydney disclose a device according to claim 1 comprising an activator, but fail to specify that the type of activator used comprises a halogenated hydrocarbon. It would have been an obvious matter of design choice to modify Moscovich with an activator comprising the element recited, since applicant has not disclosed that the specific recited element solves any stated problem or is for any particular purpose and it appears that the invention would perform equally well with any activator.

Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscovich and Sydney et al. in view of Yamato et al. (US 6,485,886).

Re claims 14 and 15, Moscovich and Sydney disclose the claimed invention according to claim 1, but fail to teach a UV stabilizer. Yamato teaches a dosimeter (Col. 26, 3-7) comprising benzophenones and hindered amines. It would have been obvious to one with ordinary skill in

the art at the time the invention was made to modify Moscovich and Sydney with benzophenones and hindered amines in order to absorb UV radiation.

Claims 38-42, 44, 50-57, 59, 60, 63-65, and 67-72 are rejected under 35 U.S.C. 103(a) as being unpatentable over Moscovich and Sydney et al. in view of Gore et al. (US 6,218,673).

Re claims 38, 50, and 55, Moscovitch discloses a method comprising the step of analyzing three-dimensional data from a dosimeter exposed to radiation, by evaluating optical properties of said dosimeter (Col. 4, 29-54) wherein said dosimeter comprises a transparent polymer doped with a reporter compound (Col. 5, 38-43). Moscovich fails to teach one or more activators dispersed within said device. Sydney teaches a dosimeter device comprising an activator (Col. 9, 18-25). It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Moscovich with an activator in order to make the dosimeter more sensitive to low dosages of high-energy radiation (Col. 9, 18-25). Moscovich also fails to teach analyzing said data using a tomographic process. Gore teaches analyzing three-dimensional dosimeters using a tomographic process (Col. 1, 18-43). It would have been obvious to one with ordinary skill in the art at the time the invention was made to modify Moscovich with tomographic analysis in order to accurately reconstruct images based on three dimensional dose distributions.

Re claims 39-41 and 51-53, Moscovich discloses a dosimeter sensitive to high-energy radiation (ionizing, X, and neutron) (Abs).

Re claims 42 and 54, Moscovich discloses using spectroscopy analysis (Abs) but fails to specifically teach using spectrophotometric analysis. Sydney teaches the use of a

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spectrophotometer (Col. 11, 25-32). It would have been obvious to one with ordinary skill in the art at the time the invention was made to use a spectrophotometer to monitor said dosimeter being exposed to radiation.

Re claims 44, 55, 56, 59, and 60, Sidney and Moscovitch disclose a method according to claim 38, comprising the step of analyzing three-dimensional data from a dosimeter exposed to radiation, by evaluating optical properties (detecting light, calculating amount and distribution) of said dosimeter (Col. 4, 29-54), and displaying the dose information extracted. Sidney and Moscovitch fail to explicitly teach the step wherein detected light is processed to construct a three dimensional image. However, in the field of endeavor, it would have been obvious to one with ordinary skill in the art at the time the invention was made to modify the method taught by Sidney and Moscovitch, by constructing a three dimensional image of the dose information constructed in order to determine the radiation energy as a function of the spatial distribution within the dosimeter.

Re claim 57, Moscovich discloses detecting means 43 comprising a CCD (Col. 13, 12).

Re claim 63, Moscovich discloses means for erasing data from said dosimeter (Col. 6, 26-27).

Re claims 64-65 and 67-72, Moscovitch discloses a method comprising the step of analyzing three-dimensional data from a dosimeter exposed to radiation, by evaluating optical properties of said dosimeter (Col. 4, 29-54) wherein said dosimeter comprises a transparent polymer doped with a reporter compound (Col. 5, 38-43). Moscovich fails to teach one or more activators dispersed within said device. Sydney teaches a dosimeter device comprising an activator (Col. 9, 18-25). It would have been obvious to one with ordinary skill in the art at the

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time the invention was made to modify Moscovich with an activator in order to make the dosimeter more sensitive to low dosages of high-energy radiation (Col. 9, 18-25). Furthermore, those skilled in the art can appreciate the importance of radiation dosimetry and its uses in radiation therapy, and would be obvious to provide the method taught by Moscovich and Sydney in the cited pretreatment planning therapies in order to provide precise radiation dose measurements.

#### **Allowable Subject Matter**

Claims 45-49, 58, 61, and 62 are allowed.

The following is a statement of reasons for the indication of allowable subject matter:

Re claims 45 and 58, prior art discloses a tomographic method to image accumulated radiation from the dosimeter, but fails to teach or suggest a step wherein the dosimeter is rotated and repeating steps d, e, and f.

Re claims 48 and 61, prior art fails to teach a radionuclide source.

#### **Response to Arguments**

Applicant's arguments filed 10/13/05 have been fully considered but they are not persuasive. Applicant's main arguments are that prior art fails to teach a three-dimensional polymer, a heat stabilizer, and erasing means. Those arguments have been addressed above.

## **Conclusion**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Marcus H. Taningco whose telephone number is (571) 272-1848. The examiner can normally be reached on M - F 9:00 - 5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dave Porta can be reached on (571) 272-2444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.



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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

MT



DAVID PORTA  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2884